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Myers, Richard H.; Grimm, Dennis H.; Shumway, Stanely G.

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THESIS

A MICROCOMPUTER ABSTRACT REPRESENTATION OF THE MARINE CORPS' SABRS FINANCIAL MANAGEMENT SYSTEM

by

Richard H. Myers

Dennis H. Grimm

and

Stanley G. Shumway

December 1983

Thesis Advisor: Joseph Mullane

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The objective of this thesis is to provide financial managers in the United States Marine Corps with a familiarization of the Prime Enhancement Project (PEP) and to illustrate some of the potential for micro-computers in the financial management field. Because of the system constraints, the thesis is limited to an abstracted simulation of PEP and an example abstracted from the budget formulation process using an electronic spreadsheet. The objectives are met through the development of an integrated system of a micro-computer, necessary software, and a tutorial. The system described

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A Microcomputer Abstract Representation of the Marine Corps' SABRS Financial Management System

by

Richard H. Myers
Major, United States Marine Corps
B.S., Troy State University, 1969

Dennis H. Grimm
Major, United States Marine Corps
B.A., Norwich University, 1973

and

Stanley G. Shumway
Captain, United States Marine Corps
B.S., The Citadel, 1977

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1983

[illegible]

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The objective of this thesis is to provide financial managers in the U. S. Marine Corps with a familiarization of the Prime Enhancement Project (PEP) and to illustrate some of the potential for micro-computers in the financial management field. Because of the system constraints, the thesis is limited to an abstracted simulation of PEP and an example abstracted from the budget formulation process using an electronic spreadsheet. The objectives are met through the development of an integrated system of a micro-computer, necessary software, and a tutorial. The system described is the primary product of this thesis and a concurrent thesis prepared by Captain K. V. Lockett and Captain M. E. O'Neil of the Naval Postgraduate School. Simultaneous use of both documents is essential to a thorough understanding of the project.

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I. INTRODUCTION

The primary objective of this thesis is to provide an abstracted simulation of the Prime Enhancement Project (PEP) phase of the Standard Accounting, Budgeting and Reporting System currently under development by the U. S. Marine Corps. Further, this thesis seeks to provide, through the use of a budget formulation exercise, financial managers with an example of the potential of micro-computers for routine management functions not currently automated by any formal systems. The vehicle used to meet both objectives is an integrated system consisting of a micro-computer, necessary software and a tutorial.

The scope of this thesis is to present the tutorial (Appendix A) and to describe both the development of the tutorial and the program itself. A concurrent thesis [Ref 8] contains detailed information on hardware and software acquisition as well as a complete program listing of the applications program created for the PEP simulation. Because the emphasis of the thesis was directed towards creating an instructional package for use by the Practical Comptrollership Course (PCC), it is by nature more of an applied project than a research effort. Consequently a detailed description of its development would be tedious and extremely lengthy. The appendix is submitted as an explanation of the project.

II. BACKGROUND

It is not possible to begin a meaningful discussion of this thesis without first providing some background information. Sufficient insight into the need for this thesis can be gained by an understanding of the origin and characteristics of the three distinct but related systems: PRIME, SABRS and PEP.

A. PRIME

The Priority Management Effort (PRIME) was developed in 1967 by then Assistant Secretary of Defense (Comptroller), Dr. Robert Anthony, to implement the Resource Management System for operations. [Ref. 1] The two primary objectives of the PRIME project were:

1. consistency of information in programming, budgeting and accounting.

2. development of more accurate information concerning the consumption of operational (as opposed to investment) resources. [Ref. 2]

Because the long range goal of PRIME was to charge all measurable expenses to the incurring unit, the primary focus of the system was on expense. Thus PRIME was developed as a rigidly structured, mechanized system to separate accountable costs from allocated costs.[Ref. 3]

Consistent with the objective of interfacing budgeting to programming and planning, each program within the DoD budget was subdivided into six hierarchichal levels of expense units. Each level, in descending order, providing more detailed expense data. At the lowest level, costs were accumulated through a 14 digit Job Order Number (JON). Each level in the hierarchy was assigned a specific position within the 14 digit field, each having a unique coding system. Through the use of the JONs each echelon of command captured and consolidated expense data into successively larger subdivisions until finally it is used as the basis for the DoD budget input to the Planning,Programming and Budget System (PPBS). One inherent weakness in the system is worth noting: before the budget could be submitted to Congress it had to be recast into a line item (as opposed to program) format.

PRIME was designed to meet the needs of top level managers within DoD, and indeed it did. However because of the "top down" nature of the system, the local activity managers encountered some difficulty obtaining data through PRIME. [Ref. 4]

B. SABRS

The Standard Accounting, Budgeting and Reporting System (SABRS) is currently under development as a Marine Corps wide system to integrate, like PRIME, accounting, budgeting and financial management functions. [Ref. 5] Approved as a

concept in August 1978, the system has undergone numerous revisions resulting in repeated delays in implementation. [Ref. 4] In addition to satisfying the requirements met by PRIME, SABRS has some additional objectives particularly addressing the shortcomings noted in PRIME. A partial litany of these objectives, by no means comprehensive, include provisions for:

- timely financial data
- locally generated ad hoc reports
- reduction of memorandum records
- direct interface with related systems
- satisfying GAO accounting system standards.

A more complete description of the system is provided in the SABRS Detailed Systems Design published 31 May 1982. For the purposes of this thesis it is sufficient to note that SABRS, when implemented, will allow comptroller personnel to manage their commands' financial assets using accurate, timely information as opposed to spending much of their time developing the necessary information required for budgeting and reporting requirements. [Ref. 4]

Due to the vastly enlarged scope of SABRS over PRIME, many more people will have direct access to automated information through the use of networked terminals located throughout the command. This particular feature of SABRS posed some unique problems in its development and implementation. Of course programming and budgeting for the hardware procurement and software design were attended to at the projects inception. Another problem, one of ensuring a

smooth transition from the old system to the new and the education of a far greater number of users began to gain importance. [Ref. 6]

C. PEP

The Prime Enhancement Project (PEP) was developed to improve the PRIME system as an interim measure prior to the implementation of SABRS. Thus by its nature PEP was designed for the short term with no intention of redesigning the PRIME system or implementing any major modifications thereto. [Ref. 6]

The primary purpose of PEP was to utilize the newly acquired SABRS hardware to provide a new input medium to replace the current system which was rapidly beginning to fail. In addition to providing a much needed replacement function, PEP also incorporated a limited on-line inquiry capability into six selected files of the PRIME system. [Ref. 6] These files were selected on the basis of their perceived usefulness to the user and consist of the following:

- Personnel History File
- Master Job Order Number File
- Reimbursable Order Number File
- Fund Control File
- General Ledger File
- Unfilled Orders File

Further, plans exist for additional enhancement to include budget execution information and the inclusion of ad hoc inquiry capabilities. [Ref. 6]

PEP is not considered a Class I (i.e. one centrally managed and maintained by HQMC) program and is, therefore, custom installed at each site. The flexibility provided by the system has created unique training problems for the users since no two sites operate with exactly the same PEP program. [Ref. 6]

III. PURPOSE AND PARAMETERS

A. PURPOSE

The underlying purpose for the project was to provide an abstracted simulation of PEP for students of the Marine Corps version of the Practical Comptrollership Course (PCC). The PCC can be described as a "hands-on, case oriented" approach to financial management, catering to both military and civilian members of the Department of the Navy. Nine courses a year are taught with two devoted specifically to Marine Corps personnel and Marine Corps financial management systems. It is the Marine Corps version of the course to which this project, as embodied in the appendix, is directed. [Ref. 7]

Due to the the students' wide variation in both experience and background, a system of familiarization was sought to illustrate the basic concepts of the PEP without becoming too complicated for non-accounting personnel. Further because the simulation was to take place on a micro-computer, steps were necessary to overcome the first time users' possible anxiety concerning the hardware. As the project began to take shape, it became apparent that much more than an abstracted simulation of PEP could be accomplished by the micro-computer in use.

The decision to include a sample budget preparation package was based on data from a survey of Marine Corps financial managers. [Ref. 3] The spreadsheet portion of the tutorial familiarizes the students with a typical electronic spreadsheet format. Through a series of step-by-step instructions the student is taught to develop and consolidate a series of small spreadsheets representing individual cost centers.

B. PROJECT PARAMETERS

The director of the PCC provided the initial parameters for the project. Those were to provide the students with a basic familiarization of the topic discussed above within the constraint of a four hour time period. One hour of the four was to be classroom instruction while the remaining three were to be actual "hands-on" experience. In the process of working through the tutorial the student can, given no experience in financial management, gain considerable insight to the PRIME Enhancement Project. More importantly, given only a basic knowledge of Marine Corps financial management, the student will gain an appreciation for the advantages of PEP and thus SABRS over the current system while at the same time develop an appreciation for the potential of micro-computers in the financial management field.

IV. SYSTEM REQUIREMENTS AND PROGRAM DESIGN

The system and program design for the project presented several unique requirements. The hardware had to be portable to accommodate "after hours" use by the PCC students. Because of the class size (usually 28 students), multiple machines were required to ensure that each student had exclusive access to a computer for the three hours necessary to complete the tutorial. The requirement for multiple machines necessitated a relatively low acquisition cost. Additionally the hardware and software had to be simple enough for use by students unfamiliar with computers, yet sufficiently sophisticated to allow realistic simulation of the PEP within the same program as the electronic spreadsheet.

The hardware chosen for the project was the KAYPRO-10, of which four were acquired. The software used to develop the PEP simulation was dBASE II by Ashton-Tate, while Multiplan by Microsoft was used as the electronic spreadsheet. The selection and acquisition of the system components were the subject of a concurrent thesis prepared at the Naval Postgraduate School by Captain K. V. Lockett and Captain M. E. O'Neil. [Ref. 8] That document contains a specific and detailed discussion of requirements and constraints involved in development of the system used in conjunction with the tutorial. In addition to acquiring the

system, Captains Lockett and O'Neil prepared the actual PEP program used in the simulation. A detailed program listing is included as an appendix to their thesis.

The program design and preparation of the companion tutorial were the primary focus of this thesis. As previously mentioned, the project required both the simulation of the existing PEP and development of a budget formulation package utilizing an electronic spreadsheet.

A constraint inherent in the small memory size of the computer selected (64K) was the primary limiting factor in the program design. The program could not exactly simulate the actual functions of PEP. An abstracted simulation was developed instead. Thus to the user (student) the system appears to function the same as PEP, but the data transfers are far simpler and fewer in number than in the actual PEP system. Simplifying the program while meeting the requirement for a useful and realistic simulation precluded the inclusion of the full capability of the system as it exists in the field. The functions of PEP included in the project as working simulations were selected on the basis of results obtained in a survey conducted of financial management personnel throughout the Marine Corps. [Ref. 3] The selection was further influenced by the collective professional background of the PCC student population. Simply stated, only a small percentage of the PCC students work exclusively with the accounting function. Therefore

those capabilities of PEP that were useful to the widest range of students were included (as opposed to those specifically accounting oriented). For example the aspect of PEP that provides the supervisory capability was excluded, whereas inquiry capability concerning a variety of transactions types of general interest to virtually every financial manager was included.

The budget formulation portion of the program was included to illustrate one of the many potential uses of micro-computers in the financial management field. By no means as complete a simulation as the PEP section, the budget section provides a simple but realistic example of a possible budget formulation technique. From a programming standpoint, the budget section was conceptually easier than PEP. However due to the flexibility required in budget formulation, the pyramidal nature of consolidation and the complexity of the actual spreadsheet program the student is faced with a more challenging, less structured environment than with the PEP simulation. An operating forces format, rather than a post and station format, was chosen for this section to ensure familiarity of terms to the largest proportion of the students. Although the terms used in the budget section are not generally used by students working at posts and stations, they are basically generic in nature and easily understood by all financial managers throughout the Marine Corps.

The system formed by the attached appendix in conjunction with the hardware and software described in reference 8 represent a complete package designed to meet the needs of the Practical Comptrollership Course. The system was designed to be expanded or revised as necessary to ensure its continued usefulness. As PEP evolves and financial managers become more familiar with it, modification will become necessary. In fact for the system to remain useful, almost continual upgrading in both hardware and software will be required.

V. SUMMARY

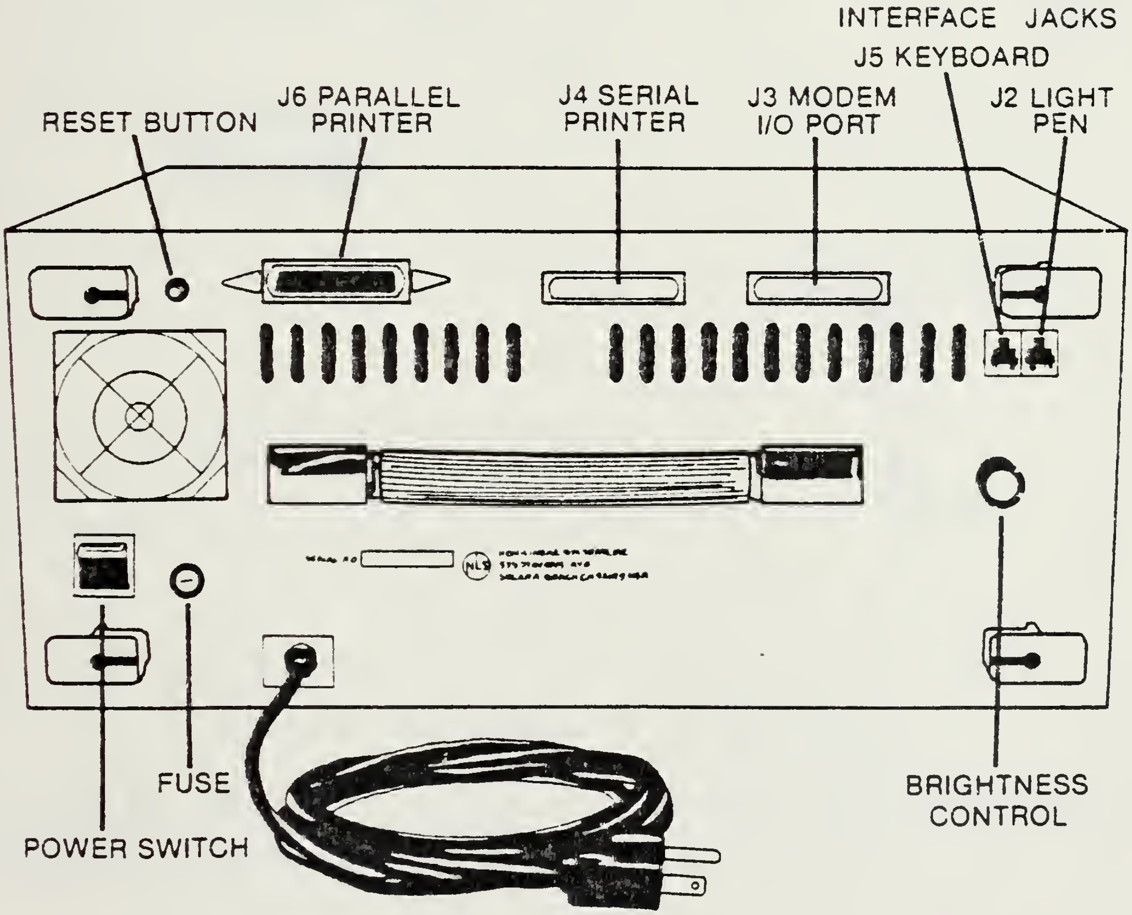
The development of any instructional material used in conjunction with a computer requires detailed and concise directions. It is recognized that to more experienced students the tutorial and program will appear almost childishly simple. Yet to those students completely unfamiliar with computers, working through the tutorial will prove an arduous task. The goal of the tutorial is to satisfy both the experienced and novice user. Towards this end much of the tutorial was intentionally left relatively unstructured. This was to allow the knowledgeable student freedom to experiment and thus gain as much exposure to PEP and the spreadsheet as possible. At the same time, completing the structured portion of the tutorial requires absolutely no prior knowledge of the computer or the systems simulated. This aspect of the tutorial was included to reduce, as much as possible, the first time users' anxiety towards the hardware while still providing a basic understanding of PEP and the potential of micro-computers. Information and diagrams to aid the students' understanding were drawn from references 9 and 10. Constant monitoring of the student experience level is necessary to ensure timely modification is made to the project, thereby ensuring its continued usefulness.

APPENDIX A

MICROCOMPUTER INTRODUCTION FOR PRIME ENHANCEMENT PROJECT AND FINANCIAL SPREADSHEETS

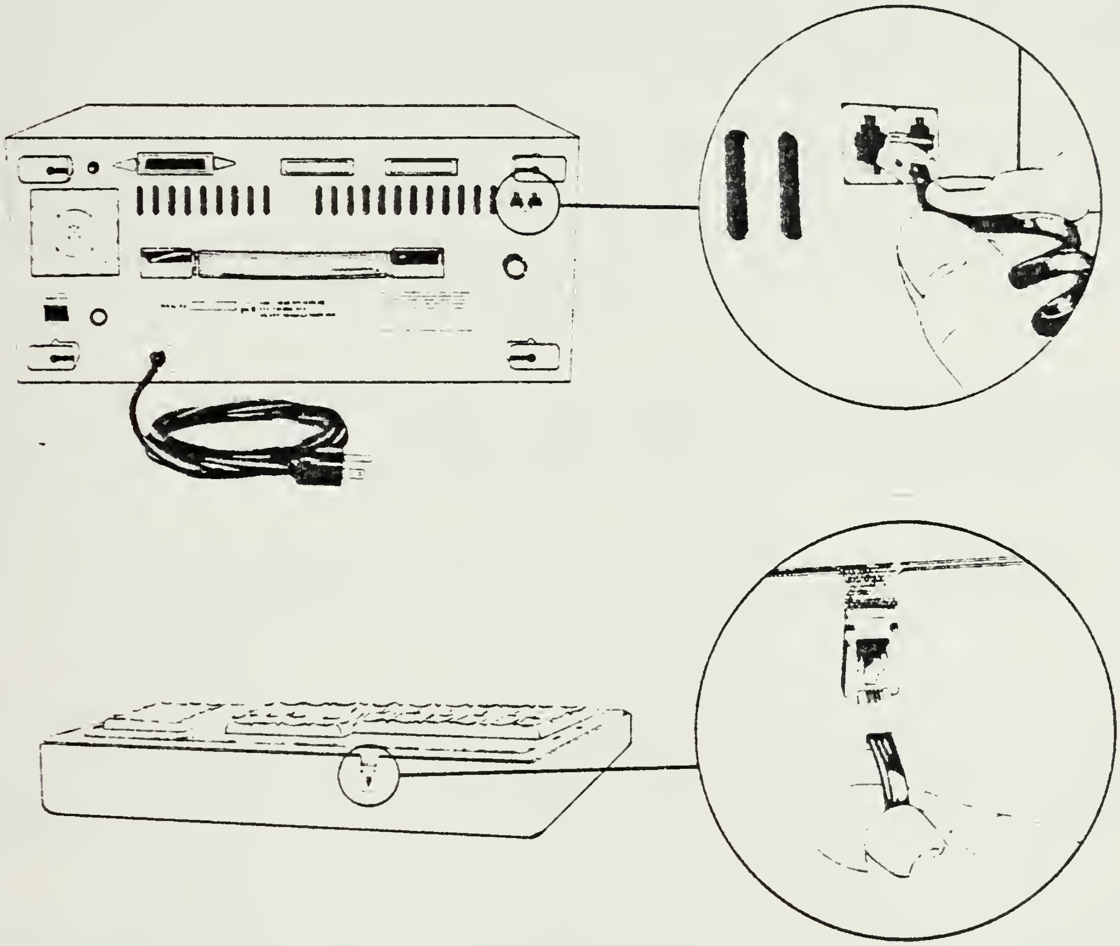
1. The KAYPRO 10 is a 10 megabyte hard disk microcomputer. It operates on 115-120 volts at 60 cycles (normal house current). The power cord has a three pronged plug to ensure proper grounding. Do not attempt to defeat the grounding feature.

2. Set the computer on a flat surface and examine the back of the unit (the side with the handle). You will notice an assortment of connection ports and switches. While all of this looks rather formidable, do not be intimidated. You will only be concerned with a few of them. By following these instructions carefully, you will have no difficulty in preparing the machine for use. Refer to the diagram below:



(Diagram from KAYPRO 10 USERS' MANUAL)

3. With the back of the computer facing away from you, you will see a plain, light gray surface at the front. This is the keyboard. It is held in place by the two black plastic catches located on either side of the machine. Remove the keyboard by pulling out on the back of both catches simultaneously. Once the keyboard is free, set it on the desk in front of you. Remove the black coiled cord from around the screen of the computer. Plug one end into the back of the keyboard (see picture below). It can only go in one way so don't worry about putting it in wrong (both ends are the same). Take the other end of the cord and insert it in the back of the machine into the input jack labeled "J5 KEYBOARD" (see picture below). The keyboard is now ready for operation and you have just completed the most difficult part of the set-up procedure.



(Diagram from KAYPRO 10 USERS' MANUAL)

4. Lift up the front of the machine and pull the black wire stand into the down position, this will raise the front of the computer to aid in viewing the screen.

5. Unwrap the power cord from the back of the machine and plug it into the surge protector you received with the computer. Now plug the surge protector's cord into the wall socket. Turn the amber rocker switch on the surge protector on (when it is on the amber light on the side of the box will glow). Don't worry nothing will happen.

6. Before you power this beauty up, take a minute to again examine the back of the machine. The power switch is the black rocker switch located just below the fan unit on the left side of the computer as you face it. The switch is labeled, strangely enough, "POWER" and is known affectionately as the "O N / O F F" switch.

****

ONCE YOU TURN THE SWITCH ON, DO NOT TURN IT OFF WITHOUT GOING THROUGH THE POWER DOWN SEQUENCE WHICH WE WILL COVER IN A MINUTE!!

****

The only other switch you need be concerned with is the reset button located above the fan. You can't miss it, it is red and labeled appropriately "RESET". Remember where this switch is because if you get in trouble later on in this tutorial you can always press the "RESET" button and start over without doing any damage to the machine or the program.

7. You are now ready to turn the machine on. Press the "POWER" switch and have a seat. The computer will be warmed up and ready shortly. The machine is ready when you see a display that looks like this:

```
-----------------------------------------------------------------
KAYPRO 10 CP/M Version 2.2F

A0>

-----------------------------------------------------------------
```

This is your indication that the computer is ready to accept commands.

****

BEFORE YOU TYPE ANYTHING ON THE KEYBOARD, LOCATE THE "CAPS LOCK" KEY AND DEPRESS IT ONE TIME (THE RED LIGHT ON THE KEY SHOULD GLOW). WITH THIS KEY ENGAGED ALL LETTERS ENTERED THROUGH THE KEYBOARD ARE ENTERED AS CAPITALS, HOWEVER TO ACHIEVE THE UPPER CHARACTER ON ANY OTHER KEY, YOU MUST DEPRESS AND HOLD THE SHIFT KEY WHILE THE DESIRED CHARACTER IS ENTERED!!

****

The flashing block on the screen next to the "A0>" is called the "cursor;" it indicates where the next entry from the keyboard will appear on the screen. This tutorial is designed to walk you through the input step by step to ensure your results will be identical to those published here. The screen displays are illustrated in the sequence they should be encountered, and operator input is identified by the following sequence:

TYPE: "   " (type only what is inside the quotation marks, do not type the marks themselves)

"   " (sometimes a series of entries are required, when this is the case each separate entry will be set off by an individual set of quotes)

<RETURN> (you are already familiar with the return key, but be careful not to hit it until necessary for it will almost always result in errors)

You are now ready to give the computer the first command!

TYPE: "DO PEP"

<RETURN>

When successfully executed the screen will display:

```
------------------------------------------------------------------
DATE:                                               TIME:
 P R A C T I C A L   C O M P T R O L L E R ' S   C O U R S E

                           PROGRAM OPTION MENU

                       (1) -  PRIME ENHANCEMENT PACKAGE
                       (2) -  ELECTRONIC SPREADSHEET
                       (3) -  STOP SESSION AND EXIT


                       ENTER CHOICE HERE :   : AND PRESS RETURN


INITMENU.CMD
------------------------------------------------------------------
```

Congratulations, you have successfully given your first computer command.

8. The screen you are looking at is called a "menu". You will be seeing quite a few of them in different formats because the Prime Enhancement Project system is what is known as "menu-driven" system. Such systems allow even the most inexperienced user to accomplish fairly complex tasks. If you have never touched a computer before today, you will still be able to work this tutorial at just about the same pace as the most experienced user.

This screen is called the initial or main menu. It allows you three choices. If you choose option one, you will be working with an abstracted simulation of the Prime Enhancement Project. Option two, the electronic spreadsheet is a budget formulation package. Option three stops the program and prepares the machine to be shut off. This is the power down sequence previously mentioned.

****
IT IS IMPERATIVE THAT YOU DO NOT SHUT THE COMPUTER OFF WITHOUT FIRST GOING THROUGH OPTION THREE. FAILURE TO THIS OPTION ON POWER DOWN MAY RESULT IN PERMANENT DAMAGE TO THE MEMORY.
****

We want to begin with the section on the Prime Enhancement Project, so:

TYPE: "1"

<RETURN>

The screen will display:

```
-----------------------------------------------------------------

                      ****WELCOME ABOARD****

                               THE

                    PRIME ENHANCEMENT PROJECT

                  DATA ENTRY AND INQUIRY SYSTEM
          PLEASE ENTER YOUR ACTIVITY ID:      :

                         KEY OPERATOR:  :

                        USER PASSWORD:      :
-----------------------------------------------------------------
```

THE PRIME ENHANCEMENT PROJECT

1. You're here. This is the beginning of the Prime Enhancement Project. The screen you are looking at (the same one illustrated on the preceding page is control screen. It requires the input of specific and exact codes to ensure only authorized persons use the system. For the purposes of this course, everyone will use the same codes, that is those listed below in the input section. The sequence of entries on this screen are controlled by the machine. The cursor will move automatically to the next input area, in sequence, upon completion of each field. You cannot control the cursor position from the keyboard.

TYPE: "11111"

"11"

"PCCPEP" (this input will not appear on the screen as it is typed--a security feature of the Prime Enhancement Project)

<RETURN>

2. The screen now displays:

```
----------------------------------------------------------------------

   DATE                                                    TIME
                      PRIME ENHANCEMENT SYSTEM
                        M A I N   M E N U


                        (1) - INPUT
                        (2) - INQUIRE MODE
                        (3) - SUPERVISOR
                        (4) - TERMINATE SESSION

               ENTER SELECTION HERE :   : AND PRESS RETURN

----------------------------------------------------------------------
```

A brief description of the four options follows:

Option 1. The input mode is the mode in which the computer receives data from the keyboard for storage in the memory. Although for our purposes we will use only a few of the possible input transactions, your accounting office inputs every transaction previously entered through scan data through this mode.

Option 2. The inquiry mode is one of the most unique features of the Prime Enhancement Project. This mode gives users online access to the actual data files in the main computer at the Regional Automated Services Center (RASC). None of the data can be changed in this mode and it is only as current as the last batch update. The time savings of such a capability will be obvious.

Option 3. The supervisor's mode allows accounting supervisors to review documents as input through the option 1 system. The supervisor can review each transaction individually or check by batch. In the interest of time, we have chosen not to simulate this feature of PEP, therefore it is inoperative in this model.

Option 4. Terminating the session does just that. In this tutorial however, selection of this option will return you to the initial menu. This is to allow you to use the spreadsheet capabilities unique to this training package.

Depending on the option selected you will move to another menu. The one we're going to use now is the input menu; later you'll have a chance to see each of the others.

TYPE: "1"

<RETURN>

4. The screen now displays:

```
------------------------------------------------------------------
 * * * P R I M E   E N H A N C E M E N T   P R O J E C T * * *

                D A T A   E N T R Y   S Y S T E M

                    TODAY IS 06 OCTOBER 1983

                         (JULIAN) 83279

                       TIME IS 16 15 30 9

        PLEASE ENTER BATCH DATE:

    (JULIAN FORMAT FIVE DIGITS):

    PLEASE ENTER A BATCH NUMBER:

          (MUST BE FIVE DIGITS):

THEN DEPRESS ENTER TO PROCEED TO PROCESS MENU
------------------------------------------------------------------
```

This screen, as are most, is self explanatory. Once again the cursor will be controlled by the machine, moving from one input field to the next as the data is entered. This particular screen has no edit checks, that is you may input any set of five digits regardless of their logic.

Type: "83279"

"12345"

<RETURN>

5. The screen now displays:

```
-----------------------------------------------------------------

RECORD-KEY:    JUL-DATE:    ACTIVITY-ID:    BATCH-NO:    KEY-OPR:

                    TRANSACTION PROCESS MENU

     (1) AD        (9) DL               (17) UNUSED

     (2) AL        (10) DS              (18) JV

     (3) AOMIL     (11) FA              (19) R (FACILITIES)

     (4) AOCIV     (12) F1 THRU F4      (20) R1 THRU R5

     (5) A2MIL     (13) GN              (21) UL

     (6) A2CIV     (14) JE              (22) LABOR "CF" RECORDS

     (7) BU        (15) LA              (23) RECAP INPUT

     (8) CF        (16) MA              (24) END PROCESS

         INSERT NUMBER OF TYPECODE FUNCTION DESIRED (   )

-----------------------------------------------------------------
```

By entering the number of the transaction desired and pressing the "return" key you will be able to move instantly to a screen with the proper input format for the selected transaction type. In the interest of time and computer memory conservation the only transaction types functional on this machine are types 1, 3, 4, 5, 6, 7, 23, and 24.

Type: "3"

<RETURN>

6. The screen now displays:

```
-----------------------------------------------------------------------
RECORD-KEY: JUL-DATE:83279ACTIVITY-ID:11111BATCH-NO:12345 KEY
                   **AO MILITARY TRANSACTION**

   BADGE NO:_____

       SSN1:___             SSN2:__                SSN3:____

       NAME:____________________                RANK-GR:__

    CH-NCHG:_

   MIL-COMP:_            DAY-OFF:__             CLOCK-ST:__

        JON:______      WORK-CTR:____           RUC-MOS:_____

      PRESS ENTER WITHOUT KEYING BADGE-NO TO RETURN TO MENU

-----------------------------------------------------------------------
```

This screen is used for entering new military personnel into the Personal History File (PHF). By simply entering the data into the field in which the cursor is located, a complete record is completed. The machine again controls the cursor. If you make an error, an error message will appear on the screen. The message will tell you the nature of the problem and the cursor will be located in the appropriate field for correction. It is important to note at this point that will the computer can check for some errors in the data fields. It is impossible for the computer to detect all errors. For example, the computer can check to ensure that only existing work centers are entered. It cannot tell if the work center you entered is the one in which the individual actually works. Likewise the computer cannot detect spelling errors.

Type: "M9987" (Military badge numbers begin with letters)

"232"

"44"

"2937"

"Marine, I.M." (limited to 20 characters)

"03" (must be W1-W4, E1-E9, or 01-110)

"Y" (must be "Y" or "N")

"M"   ("M" is for Marine Corps, the rest are unimportant)

"99"   (must be 60 or 99)

<RETURN> (no edit check, may be blank)

"A65432" (must be included in the MJON file)

"2301"   (must be four digits, and on the MJON file)

"3415"   (may be left blank, to leave blank hit "RETURN")

<RETURN> (registers the data on the screen to the memory)

Once you have hit the "return" key a message appears at the top of the screen to inform you that the file is being updated. This feature is unique to this program and does not exist in the actual PEP system. This instant file update process is what is known as an "interactive operation"; because PEP is a batch mode system the update will not take place until the periodic update cycle (which will vary between commands).

When the computer is done updating the file the following screen will appear:

```
----------------------------------------------------------------

****************************************************************

          YOUR TRANSACTION HAS BEEN APPENDED TO THE PHF

****************************************************************


   NOW SELECT YOUR DESIRED OPTION
    222222222222222222222222222222


                INPUT ANOTHER AOMIL TRANSACTION (1)
                      RETURN TO MAIN INPUT MENU (2)
                                           STOP (3)

    ENTER THE NUMBER OF YOUR DESIRED OPTION ===>(     )

----------------------------------------------------------------
```

That's all there is to entering a new employee to the PHF. If you would like to try it again, just start typing in the data beginning with a badge number. Be sure to use the same JON and work center to preclude and error message when those two files are checked against the MJON file.

When you have had enough just enter a "2" on the option menu to return to the transaction process menu.

7. If you are here in the tutorial, you should be looking at the transaction process menu (the one that appeared on page 9 of this tutorial). If you do not see the transaction process menu on the computer screen, chances are you have not yet exited the AOMIL transaction that you were just working on, so go back and finish it off so you can move on.

The next transaction type will be the AOCIV transaction, its function is similar to the AOMIL transaction with one exception--you guessed it, it inputs civilian employees.

Type: "4"

<RETURN>

The following screen will appear:

```
-----------------------------------------------------------------------

RECORD-KEY:  JUL-DATE:83279 ACTIVITY-ID:11111 BATCH-NO12345 KEY-0
                  **AO CIVILIAN TRANSACTION**

     BADGE-NO:_____      EMP-TYPE:_

         SSN1:___             SSN2:__                 SSN3:____

         NAME:_____________________                RANK-GR:__

         STEP:__          HR-RATE:____             AN-RATE:_____

     NIGHT-CD:_            FF-CDE:_                FFS-CDE:_

         FLSA:_              COLA:_               CHG-NCHG:_

     DAYS-OFF:__                                  CLOCK-ST:__

          JON:______     WORK-CTR:____             RUC-MOS:_____

      OCC-CDE:__        10256 CDE:_

              PRESS ENTER WITHOUT KEYING BADGE-NO TO RETURN TO MENU

-----------------------------------------------------------------------
```

As advertised the input procedure is just like the AOMIL, there are some different data field to accommodate the information necessary for Civil Service employees.

Type: "98765" (civilian badge numbers are 5 numeric characters)

"3" (must be 2 through 9)

"250"

"31"

"7544"

"Servas, Sybil" (cannot exceed 20 characters)

"GS" (if "EMP-TYPE" is 2,5,7 or 9 must be 01 through 18
is 3,4,6 or 8 must be GS, GM, WB)

"05" (if "EMP-TYPE" is 2,5,7 or 9 must be 01-10
is 3,4,6 or 8 must be 01-05)

"0658" (must be 4 digits,decimal is placed internally)

<RETURN> (if "EMP-TYPE is 2,5,7, or 9 must be 5 digits
is 3,4,6, or 8 must be blank)

<RETURN> (must be 1, 2, 3, or blank, return=blank)

"1" (if "EMP-TYPE" is 2,5,7 or 9 must be 1,2,or 3
3,4,6 or 8 must be 1)

"1" (if "EMP-TYPE" is 2,5,7 or 9 must be 0,1,2, or 5
3,4,6 or 8 must be 1)

"Y" (must be either "Y" or "N")

<RETURN> (must be 1, 2, or blank, "return"=blank)

"Y" (must be either "Y" or "N")

"99" (must be either 60 or 99)

"12" (may be alpha or numeric or blank)

"A65432" (must be on MJON file)

"2301" (4 characters required, must be on MJON file)

"501" (unspecified, no edit checks)

"32" (if "EMP-TYPE" is 2,5,7 or 9 must be blank
is 3,4,6 or 8 two digits required)

"A" (I, 0 and S are not permitted)

<RETURN> (registers data to memory)

Once you have hit the return key, a message appears on the screen informing you that the file is being updated. When the update is complete the following screen will appear:

```
-----------------------------------------------------------------

*****************************************************************

         YOUR TRANSACTION HAS BEEN APPENDED TO THE PHF

*****************************************************************


   NOW SELECT YOUR DESIRED OPTION
   222222222222222222222222222222

                 INPUT ANOTHER AOCIV TRANSACTION (1)
                       RETURN TO MAIN INPUT MENU (2)
                                            STOP (3)

    ENTER THE NUMBER OF YOUR DESIRED OPTION ===>(     )

-----------------------------------------------------------------
```

To enter additional civilian personnel into the file select option "1" and press "return". To return to the main transaction process menu, select option "2" and press "return". Option "3" will take you back to the master menu to allow you to terminate the session, but we are not ready to quit yet are, we?

You may repeat this transaction type as often as required by simply entering a "1" and pressing the "RETURN" key (which returns you to the previous screen) then beginning at "BADGE-NO" for the new civilian employee. If you would like to try some additional transactions, go ahead. The error messages are very similar to the ones in the previous transaction type. Be sure to use the same JON and WORK CENTER as we have to avoid the risk of an error caused by an invalid entry.

8. Now that you are back to the transaction process menu we'll try one more transaction type.

Type: "1"

<RETURN>

The screen displays:

```
------------------------------------------------------------------------

                         **AD TRANSACTION**

                           BADGE-NO: _____


      PRESS ENTER WITHOUT KEYING BADGE-NO TO RETURN TO MENU

------------------------------------------------------------------------
```

The purpose of this transaction type is to delete a record, that is an employee, from the PHF. It can be used for either civilian or military personnel. Let's assume for example, that Capt. Marine was transferred out of the command:

Type: "M9987"

<RETURN>

Notice that after you hit the "return" key the screen displays a message indicating the record has been processed. Press the "return" key again to return to the screen above. PEP currently has no prompt and allows no check to ensure that the badge number was correctly entered; so be careful once you hit the "return" key: that employee's record is gone.

To get back to the transaction process menu, hit the "return" key to register a blank in the BADG-NO field

9. Now suppose you've just spent a long day slaving over your computer terminal, entering dozens of transactions of various types. How do you know for sure that you didn't miss one?

Type: "23"

<RETURN>

The screen displays:

```
-----------------------------------------------------------------

     P R I M E   E N H A N C E M E N T   P R O J E C T

           B A T C H   I N Q U I R Y   P R O C E S S


             PLEASE ENTER A BATCH NUMBER:_____:

             TO LIST ALL BATCHES KEY AN "X"
             THEN PRESS ENTER:_


   KEY "*****" FOR THE ENTIRE BATCH NUMBER TO RETURN TO MAIN MENU

------------------------------------------------------------------
```

To see a recap of the transactions processed during this session, enter the batch number you used on page 8.

To see a recap of all active batches in the memory press the "down arrow" key and type an "X" then press the "return" key.

To return to the transaction process menu:

Type: "*****"

<RETURN>

10. Once again we find ourselves looking at the transaction process menu. This time we are going to leave the input mode.

Type: "24"

<RETURN>

The screen display is now like the one on page 5 of this tutorial. You now have the choices indicated on the menu; we are ready to go on to the inquiry transactions so:

Type: "2"

<RETURN>

11. The screen display is:

```
-----------------------------------------------------------------

***************** W E L C O M E   A B O A R D *****************
                              T H E

       P R I M E   E N H A N C E M E N T   P R O J E C T

     S T A N D A R D I Z E D   I N Q U I R Y   S Y S T E M


                               UFO:   (1)
                               RON:   (2)
                               PHF:   (3)
                              MJON:   (4)
                            FUNCON:   (5)
                           GENLEDG:   (6)
                              STOP:   (7)


             ENTER NUMBER FOR OPTION DESIRED  (   )

-----------------------------------------------------------------
```

This is the main inquiry menu. As you can see, there are six transaction types and one option for exiting the inquiry mode. Selecting the "STOP" option will take you back to the PEP master menu show on page 6 of this tutorial.

Options 5 and 6 are not active in the inquiry mode of this model. While they could be simulated, neither transaction lends itself to use on a micro-computer because of their extremely large record lengths (e.g. the general ledger contains 3300 bits per record).

We will start, of all places, at the beginning:

TYPE: "1"

<RETURN>

12. The screen displays:

```
-------------------------------------------------------------------

                 U N F I L L E D   O R D E R
                   I N Q U I R Y   M E N U


             VIEW FILE BY DOC NO:                (1)
             VIEW BY EXPENSE JON:                (2)
             VIEW BY OBLIGATING JON:             (3)
             VIEW BY FUND ADMIN:                 (4)
             VIEW BY REIMB ORDER NO:             (5)
             VIEW WITH BLANK CAT CODE:           (6)
             RETURN TO MAIN MENU:                (7)
             STOP:                               (8)

       ENTER NUMBER FOR THE OPTION DESIRED  (    )

-------------------------------------------------------------------
```

This menu, as all of the other inquiry menus, allows you to view a transaction type in a number of ways. What is actually happening in the computer is called "sorting." For example if all of a command's unfilled orders used the same job order number and were issued by the same fund administrator (cost center), options 2, 3, and 4 would yield exactly the same information. However, you can see this is a valuable tool for the accounting folks to aid in tracking down troublesome documents. Unfortunately, none of the inquiries are interactive, and as such are only as current as of the latest Prime update cycle. Whatever its shortcomings, it is a whole lot better than anything available in the past. Enough prattle, back to work:

TYPE: "1"

<RETURN>

You are now looking at a screen asking you for the document number that you want to check. Just type in the number where you see the cursor blinking.

TYPE: "M0026211206667"

<RETURN>

When you press the "return" key you will quickly see the status of the requested document. In the interest of time, printing, your eyes, and particularly your interest (or lack of it at this point), we will not bore you with printed representations of every screen you could potentially see. There are approximately 34 different ways to look at the inquiry transaction types. This translates to well over 70 possible screens. It would seem that since you have come this far, you are still interested and are probably, by now just a little resentful of being told each step to take. What we are going to do is give you a list of "good" numbers that you can enter for each transaction type. After that you are on your own.

OPTION 1-TRANSACTION TYPE: UFO

Document Numbers: M0026211206667
M0026211206668
M0026210976635

Expense JON: A12345
A65432
A24680

Obligating JON: same as expense JON's

Fund Admin: 18
19
20

Reimb Order No: A1AJ
A1BG
A1JM

OPTION 2-TRANSACTION TYPE: RON--NOT ACTIVE, NO TRANSACTIONS

OPTION 3-TRANSACTION TYPE: PHF

Badge No: M0490
21354

Names: MARTINEZ, J.M.
LILLARD, W.F.

SSN: 258658745
250317544

Clock Station: 00
12

Grade: 04
03
GS

MJON: A65432
A12345

Days Off Code: 99
60

OPTION 4-TRANSACTION TYPE: MJON

CAC's: 0001
0004
0005

Exp Elements: U
E

RON's: same as above

Reimb Cat Codes: Z1

Work Centers: 1810
1870

When you have had enough and want to get back to the Main Inquiry Menu (as shown on page 16), select option 7. This will return you to the main PEP menu (as shown on page 6). Once there you may select option 4. That process will release you from the Prime Enhancement Project simulation and return you to the initial menu(as shown on page 4). It has been fun, has it not?

Now you may make the choice to go on to the spreadsheet where you will see a possible solution to your annual budget preparation headaches, or you can quit. If you really want to, you could start this portion over again. By now you know the routine, just select your option number and press the return key.

1. All computerized information systems require some programming effort. The main program(s) must be written so that the system produces the information expected. At the same time, programs for storing data, checking data, and maintenance must also be prepared. Once the needs of management have been spelled out, the programming can be accomplished. It should be noted that not all programs needed for the system have to be written by a knowledgeable programmer. Software programs, designed to perform a specific or general-purpose function, can be purchased. Many are available for functional information systems, such as marketing, advertising, and financial accounting, and for solving operations research problems. With slight modification such programs can save developing costs and time.

The purpose of this section is tailored especially for users to become familiar with how such a system can enhance financial operations and budget formulation. Such a system can provide a logical, flexible, and efficient operation within a budget office. Once the system is installed you will be amazed at how quickly and easily you will be able to understand and use such a system. Such systems will allow for:

a. Preparing budget estimates setting forth as accurately as possible the fund requirements for accomplishing your mission and assigned tasks.

b. Helps prepare a financial plan for utilization of the funds that are authorized in response to the budget request.

c. Helps ensure that funds are utilized in accordance with approved plans and directives of higher authority.

d. Helps to ensure funds are not overcommitted, overobligated, or overexpended.

e. Helps maintain records reflecting the status and utilization of authorized funds and account for these funds to the grantor in accordance with current regulations and directives.

f. Helps in conducting a continuous review of internal fiscal operations.

2. In this section of the tutorial you will practice using spreadsheets in one form or another. The numerous forms used in the preparation of the annual budgets and current financial plans are nothing more than simple spreadsheets listing in an orderly fashion the dollar amounts budgeted for the budget year and the budget year plus one and the current authorizations for fund

A spreadsheet is just that; a time-tested way of organizing numeric data for easy calculation and comprehension. Financial records that might otherwise be a jumbled mess of scribblings on scratch paper, can be neatly arranged and labeled on a spreadsheet, enabling them to be comprehended at a glance.

In its pure form a spreadsheet is a rectangular grid of rows and columns, like a large sheet of graph paper, onto which data can be entered. Until recently spreadsheets were made only on paper, and although they worked well enough, they were awkward and tedious to use. One had to enter the data with a pencil and perform the calculations mentally, or with the aid of a calculator. Any change in data required a laborious manual recalculation of major portions of the spreadsheet. As well, you had to remember the relationships that existed between the columns and rows of figures: what must be added to or subtracted from what, and when and where and how. And despite what anyone could do there was always the risk of error in performing the arithmetic, not to mention a slip of the pen in writing down the answer - all of which required checking and rechecking.

With all the diverse uses of computers all this has changed. There is no need for pencils, paper or the hand operated calculator, no need for endless manual recalculations, or for having to remember sometimes intricate relations among the spreadsheet entries. Gone is the risk of calculation error.

Inside the computer, an electronic spreadsheet is created which is a large matrix of labeled rows and columns, resembling the paper spreadsheet you are familiar with. Your computer screen, in turn, functions like a window capable of moving about and viewing whatever portion of the spreadsheet that you wish to review. The intersecting lines of rows and columns define thousand of entry positions. At each position you can enter an alphabetic title, a number, or a formula to be calculated. By entering this on the worksheet you can set up your own charts, tables, and records. The appearance of each entry, row, or column are individualized by using formatting commands.

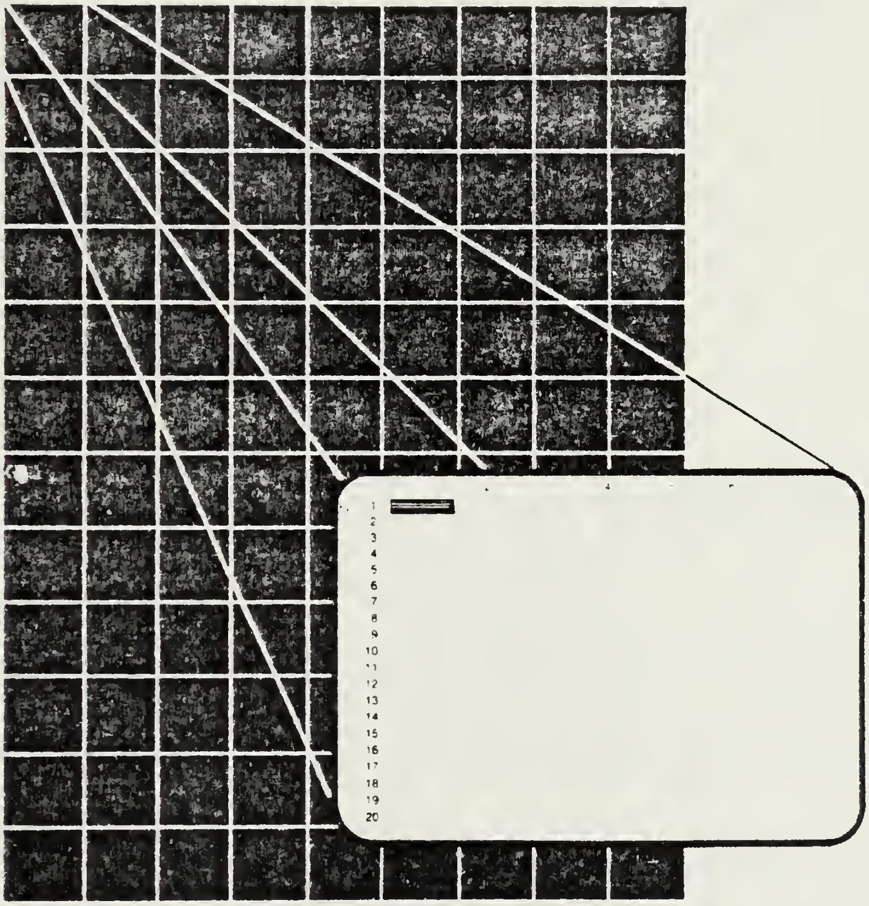
The real power of any electronic spreadsheet comes from its ability to remember the figures and formulas that you enter, automatically recalculating the formula values whenever data in any box is changed. This recalculation capability allows you to postulate changes in the data contained in your spreadsheet and to see the results of those changes immediately.

With the electronic spreadsheets contained within your computer you can easily analyze and manage the most sophisticated aspects of your financial planning. The computer has numerous applications and its use is limited only by the range of your imagination.

To illustrate the many potential uses of such a system, a number of pre-structured programs have been provided, ranging

from such simple but necessary activities as loading initial data received from cost centers/fund administrators to updating the command's annual budget plan. The programs of course are simple models, intended for illustrative purposes only. This tutorial is not intended to make you expert programmers, nor is it intended to teach you how to use the KAYPRO 10, or the many programs that you can use with it, it will however show you how such a system can be a powerful working tool in financial planning and budget forecasting. You will be able to see how you can correct mistakes and omissions, and examine various alternatives effortlessly.

The actual display on your screen will be only a small portion of the actual spreadsheet that you will be able to use. The following figure shows you that only a small portion of the worksheet will be displayed at any one time:



(Diagram from Multiplan User's Manual)

3. The program that is used for this portion of the tutorial is called the "Microsoft Multiplan." Although Multiplan is easy to learn and use it is not the intent of this tutorial to teach you the Multiplan manual in its entirety. If you wish to become familiar with and learn more about how to use Multiplan you will need to study the manual.

In paragraph 4 you will begin building a worksheet/spreadsheet much like the ones that were designed for paragraph 5. Not everything that you do (certain keys to press and certain commands to follow) will be explained to you. If you just follow the steps and procedures that are set forth in this tutorial you should have no problems in finishing it. However, if you venture out on your own without the Multiplan Users' Manual you may run into some difficulty even though the program is quite user friendly. Do not be alarmed at what steps you are instructed to follow, remember this is not a lesson in using Multiplan.

4. To familiarize you with the mechanics of Multiplan we will build a simple spreadsheet similar to those in paragraph 5.

```
-----------------------------------------------------------------

    DATE:                                        TIME:

                   PRACTICAL COMPTROLLER'S COURSE

                         PROGRAM OPTION MENU

                   (1) - PRIME ENHANCEMENT PACKAGE

                   (2) - ELECTRONIC SPREADSHEET

                   (3) - STOP SESSION AND EXIT



                   ENTER CHOICE HERE :   : AND PRESS RETURN

INITMENU.CMD

-----------------------------------------------------------------
```

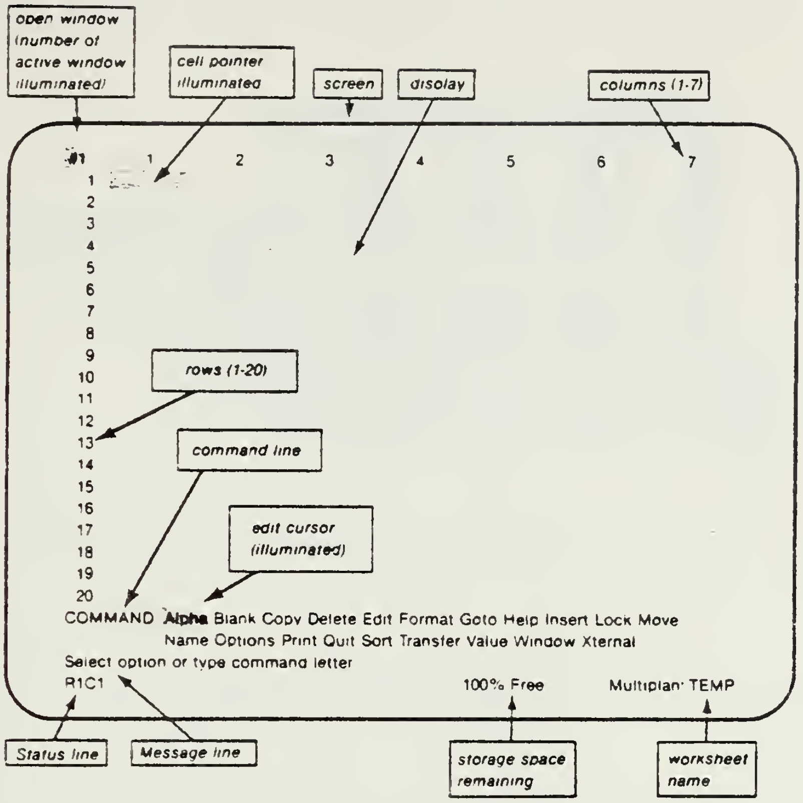
With the program option menu still on the display screen (as shown above):

Type: "2" (to select the electronic spreadsheet)

Press: RETURN

This should now take you into the Microsoft Multiplan Program.

The screen will display:


open window (number of active window illuminated)
cell pointer illuminated
screen
display
columns (1-7)
#1
1
2
3
4
5
6
7
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
rows (1-20)
command line
edit cursor (illuminated)
COMMAND Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
Name Options Print Quit Sort Transfer Value Window Xternal
R1C1
100% Free
Multiplan: TEMP
Status line
Message line
storage space remaining
worksheet name

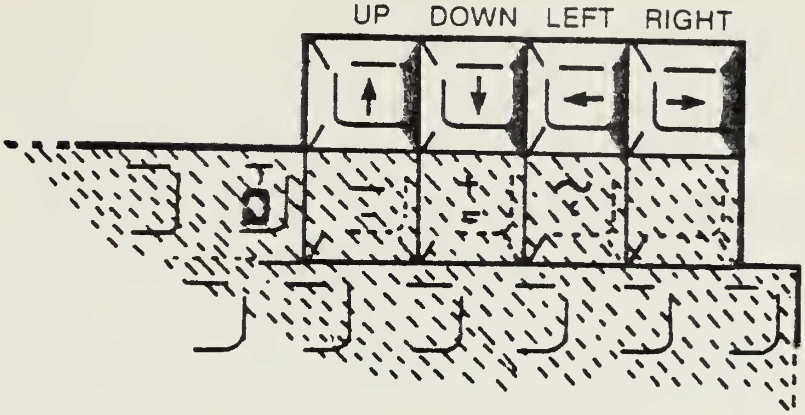
Select option or type command letter

(Diagram from Multiplan Users' Manual)

The spreadsheet contains a total of 255 rows and 63 columns. Rows are numbered from 1 to 255, and the columns are labeled 1 to 63. Although no grid of lines is displayed on the screen, the rows and columns can be thought of as creating an invisible matrix of boxes into which labels, numbers, and formulas can be entered. Each box is identified by a pair of coordinates which indicates the row and column that intersect to form the entry box. Coordinates always begin with the row number followed by the column number. If you look at the status line found on the diagram above you will note the coordinates "R1C1." It is important that you understand the meaning of the status line since it will be a valuable tool while working through this portion of the tutorial and also paragraph 5. Before entering any titles, formulas, or data, ensure that you are in the right matrix box by referring to the status line.

The cursor marks the position on the spreadsheet where titles, formulas, or data are being entered. The cursor size will be displayed differently depending on the characteristics of your computer screen, (if your column widths are of different sizes.) You will see this once you begin to build the work sheet. At this point the cursor, or as referred to in the figure above the "cell pointer illuminated" should appear in status line "R1C1." From this point on it will be referred to as the "cursor."

The cursor keys as depicted in the following diagram, move the cursor freely in any direction on the display screen.



(Diagram from Multiplan Users' Manual)

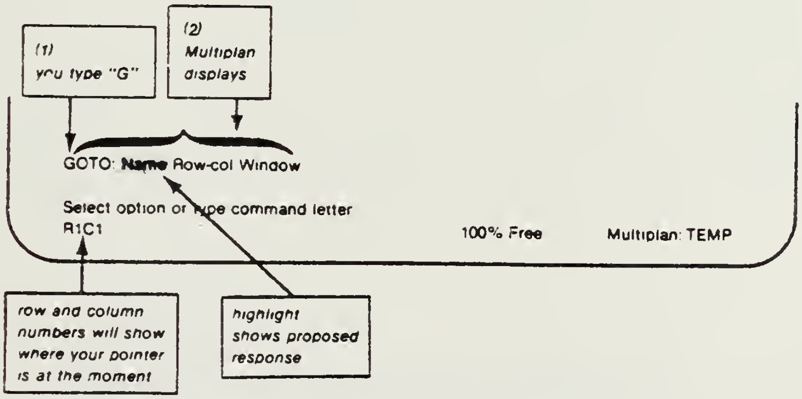
To illustrate:

Press: -> (by pressing the right direction arrow key moves the cursor to the right)

You will note by looking at the status line on the display screen that the coordinates "R1C2" now appear. Each time that you move the cursor the coordinates will change accordingly. A faster method of moving to any entry location on the spreadsheet is by the use of the "GoTo" command (note on the command line on the display screen the "GoTo" command.)

Press: G (to select goto selection from command menu)

At the bottom of the display screen you should see the command like that depicted in the following diagram:


(1) you type "G"
(2) Multiplan displays
row and column numbers will show where your pointer is at the moment
highlight shows proposed response

GOTO: Name Row-col Window

Select option or type command letter
R1C1 100% Free Multiplan: TEMP

(Diagram from Multiplan Users' Manual)

To illustrate the use of the "GoTo" command:

Press: R (to make row selection)

Type: "26" (to enter row selection desired)

Press: TAB (to move the cursor to the second field in the command line, column selection)

Type: "25" (to enter column selection desired)

Press: RETURN (to initiate command to move cursor to the new cell)

On the status line of your display screen you should now see:

"R26C25"

Now move the cursor back to "R1C1" by doing the following steps:

Press: G (to select goto command from menu)

Press: R (to select row number)

Type: "1" (to enter row desired)

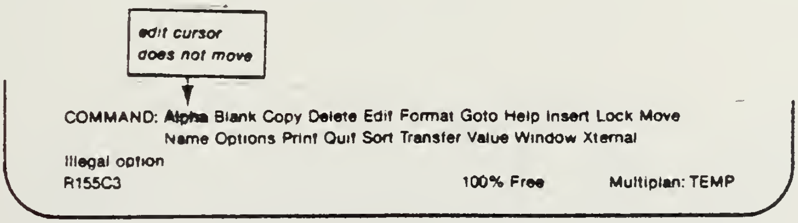
Press: TAB (to go to column selection)

Type: "1" (to select column number)

Press: RETURN (to initiate command to move cursor to the new cell location)

The cursor should now be back at "R1C1."

Before being able to type any titles, or enter any formulas, or data, you must first select the initial letter of the command you wish to perform as you did with the "GoTo" command. After selecting the initial command you must choose one of several versions of the command by using or rather selecting the subcommand with another letter. If at any time you neglect or fail to do this by selecting an invalid key you will see in the command line failure of the cursor to move, you will also note that the message "Illegal option" appears right above the status line, refer to the figure below:


edit cursor does not move
COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
Name Options Print Quit Sort Transfer Value Window Xternal

```
Illegal option
R155C3                                  100% Free        Multiplan: TEMP
```

(Diagram from Multiplan Users' Manual)

If you have accidentally pressed an invalid command option key, any key other than the first letter of the words found in the two command lines you will get this "Illegal option" message. If this should occur, select the first letter of the command option that you desire and press that key, this will take you into that command version. Should you press a command key option and get into the subcommand version and decide that you do not want to select such a subcommand just do the following steps:

Press: ESC (this is the escape key found on the upper left corner of the keyboard, this will return you to main command menu found at the bottom of the display screen)

Enough of the mechanics, let's begin building our spreadsheet! This spreadsheet will be an example of one decision unit of a cost center broken down by cost account code by quarter. By loading the quarterly budget inputs by cost account code and expense element the spreadsheet will yield totals by quarter for the decision unit, annual totals by cost account code within the decision unit, and the annual decision unit total for the cost center. Don't worry, it is not as hard as it sounds!

NOTE If you would prefer not to build your own spreadsheet but would rather move on to the canned budget exercise already present in the program proceed to paragraph 5 on page 37.

If you chose the option to construct the sample spreadsheet what you will be constructing is the following display:

```
-----------------------------------------------------------------------

                       BUDGET FORMULATION FY-8_
                            COST CENTER 07

DECISION UNIT       1ST QTR    2ND QTR    3RD QTR    4TH QTR    TOTAL
   CAC  EE          _______    _______    _______    _______    _____

REPLEN/REPL

    OON1T                                                           0
    OON2T                                                           0
    OON3T           _______    _______    _______    _______    ____0

DU 77 SUBTOTAL            0          0          0          0        0

-----------------------------------------------------------------------
```

With the cursor now in location "R1C1" proceed with the following steps doing exactly as described. The cell/cursor location will be identified before any other commands are given. Make sure that the cursor is located in the correct cell matrix

identified before you proceed with the commands that follow. Whenever you see "+" annotated in the instructions all you need to do is to press the space bar which is the long bar located at the bottom of the keyboard. You will note on your keyboard the key "CAPS LOCK." At this time:

Press: CAPS LOCK (to lock alphabetic characters in upper case, the red light on the key goes on when it is activated)

CELL/CURSOR LOCATION - "R1C1"

Press: F (to select format command)

Press: W (to select width subcommand)

Type: "15" (to select width of the 1st column)

Press: RETURN (to initiate width size of the 1st column)

CELL/CURSOR LOCATION - "R1C2"

Press: F (to select format command)

Press: W (to select width subcommand)

Type: "11" (to select width of the next columns)

Press: TAB (for column selection, a two (2) should be displayed)

Press: TAB (for 'through' selection)

Type: "6" (to identify cell width of 11 through column six)

Press: RETURN (to initiate width size of the next columns)

Press: A (to select alpha command)

Type: "++++++++BUD" (to type first part of title, remember "+" means press the space bar, in this case press the space bar eight (8) times)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R1C3"

Press: A (to select alpha command)

Type: "GET FORMULA" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R1C4"

Press: A (to select alpha command)

Type: "TION FY-8_" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R2C3"

Press: A (to select alpha command)

Type: "++COST CENT" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R2C4"

Press: A (to select alpha command)

Type: "ER 07" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R5C1"

Press: A (to select alpha command)

Type: "DECISION UNIT" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R5C2"

Press: A (to select alpha command)

Type: "1ST QTR" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R5C3"

Press: A (to select alpha command)

Type: "2ND QTR" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R5C4"

Press: A (to select alpha command)

Type: "3RD QTR" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R5C5"

Press: A (to select alpha command)

Type: "4TH QTR" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R5C6"

Press: A (to select alpha command)

Type: "TOTAL" (to type next part of title)

Press: RETURN (to enter title on format)

Press: F (to select format command)

Press: C (to change format of cells)

Type: "R5" (to select row desired)

Press: TAB (for selection of alignment desired)

Press: C (to center text in cells)

Press: RETURN (to initiate alignment of cell content)

CELL/CURSOR LOCATION - "R6C1"

Press: A (to select alpha command)

Type: "++++CAC EE" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R6C2"

Press: A (to select alpha command)

Type: "++________" (to type next part of title, 2 blank spaces followed by eight (8) underscores)

Press: RETURN (to enter title on format)

Press: C (to select copy command)

Press: R (to copy one cell into cells to its right)

Type: "4" (number of cells to copy to the right)

Press: RETURN (to initiate copying of cells to the right)

CELL/CURSOR LOCATION - "R9C1"

Press: A (to select alpha command)

Type: "REPLEN/REPL" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R11C1"

Press: A (to select alpha command)

Type: "++++OON1T" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R12C1"

Press: A (to select alpha command)

Type: "++++OON2T" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R13C1"

Press: A (to select alpha command)

Type: "++++OON3T" (to type next part of title)

Press: RETURN (to enter title on format)

CELL/CURSOR LOCATION - "R14C2"

Press: A (to select alpha command)

Type: "__________" (to type next part of title, ten (10) underscores)

Press: RETURN (to enter title on format)

Press: C (to select copy command)

Press: R (to copy one cell into cells to its right)

Press: RETURN (to initiate copying of cells to the right)

CELL/CURSOR LOCATION - "R15C1"

Press: A (to select alpha command)

Type: "DU 77 SUBTOTAL" (to type next part of title)

Press: RETURN (to enter title on format)

To enter the formulas for calculating totals, follow the proceeding instructions exactly as stated.

CELL/CURSOR LOCATION - "R15C2"

Press: V (to select value command)

Type: "SUM(" (ensure that the left parentheses is typed immediately after sum)

Press: ↑ (press the up direction key 4 times until the location of the cursor is at R11C2, be sure that the cursor is at this location)

Type: ":" (type in a colon, to enter first part of calculation)

Press: ↑ (press the up direction key 2 times until the location of the cursor is at R13C2, be sure that you are at this location)

Type: ")" (to complete the formula entry)

What should now appear on the value line is:

```
SUM(R[-4)C:R[-2]C)
```

Press: RETURN (to enter formula into cell)

The cursor should be located in CELL/CURSOR LOCATION "R15C2"

Press: C (to select copy command)

Press: R (to select copy subcommand right, this will move the formula now located in R15C2 to the right)

Type: "4" (to select the number of cells to move the formula into)

Press: RETURN (to initiate the transfer of the formula to the right; in the subtotal row should all be 0's now)

CELL/CURSOR LOCATION - "R11C6"

Press: V (to select value command)

Type: "SUM(" (ensure that the left parentheses is typed immediately after sum)

Press: <- (press the left direction key 4 times until the location of the cursor is at R11C2, be sure

that the cursor is at this location)

Type: ":" (type in a colon)

Press: <- (press the left direction key 1 time until the location of the cursor is at R11C5, be sure that the cursor is at this location)

Type: ")" (to complete the formula entry)

What should now appear at the value line is:

SUM(RC[-4:RC[-1])

Press: RETURN (to enter formula into cell)

The cursor should be located in CELL/CURSOR LOCATION "R11C6"

Press: C (to select copy command)

Press: D (to select copy subcommand down, this will move the formula now located in R11C6 down)

Type: "2" (to select the number of cells to move the formula into)

Press: RETURN (to initiate the transfer of the formula down, in the subtotal row should all be 0's now)

This will complete the format of the worksheet that you will be working with. Refer to the diagram on page 47 to see if what you have on the display screen matches with that in the diagram. If you are in error somewhere, go back to that cell location and repeat the instruction once again. Before continuing make sure the spreadsheet on the display screen matches that on page 47.

By entering the following data into the spreadsheet that was just prepared you will be able to update the decision unit by cost account code and quarter. After entering the data that follows feel free to go back and change any amount you so desire. Guidance for loading the data is provided following the data.

CAC	E/E	1ST QTR	2ND QTR	3RD QTR	4TH QTR
OON1	T	500	250	250	500
OON2	T	300	200	200	300
OON3	T	100	300	100	200

Now enter the amounts, following the instructions provided below. After the first few entries, you should feel confident to continue on your own.

CELL/CURSOR LOCATION - "R11C2"

Type: "500" (to type a value into the first quarter)

Press: RETURN (to enter value into R11C2)

CELL/CURSOR LOCATION - "R11C3"

Type: "250" (to type a value into the second quarter)

Press: RETURN (to enter value into R11C3)

CELL/CURSOR LOCATION - "R11C4"

Type: "250" (to type a value into the third quarter)

Press: RETURN (to enter value into R11C4)

CELL/CURSOR LOCATION - "R11C5"

Type: "500" (to type a value into the fourth quarter)

Press: RETURN (to enter value into R11C5)

Continue to enter the data as shown in the table on page 53.

When the data is completely entered the following totals should appear in the Decision Unit Subtotal row:

1ST QTR: 900
2ND QTR: 750
3RD QTR: 550
4TH QTR: 900
TOTAL: 3100

With the initial input now loaded to the decision unit replenishment/replacement for cost center 07 it would be very easy for someone to go back and change any of the amounts that required changing. Ensure that you are satisfied with your understanding of the basic mechanics. If you feel you need more practice, go back and manipulate the figures in your spreadsheet. When you proceed to the next command, the spreadsheet you just created will be lost forever (say Good Bye!)

Press: Q (to select quit command)

Press: Y (to confirm)

Type: "2" (to select program, electronic spreadsheet)

Press: RETURN

5. You're still having fun, right? Let's continue with the final portion of this tutorial. As mentioned earlier we do not intend to make you programmers, what is intended is that you see what a desktop computer can do for you as a future comptroller, financial analyst or budget officer within the Marine Corps. The following are simple models of how someone could set up spreadsheets to help in formulation of the command's budget for the budget year. Because of the time constraints the spreadsheet has been kept simple and short.

Three operating forces cost centers will be used; 01, 02, and 03 respectively. The three decision units selected are operations/administration (71), training (72), and deficiencies in units (76).

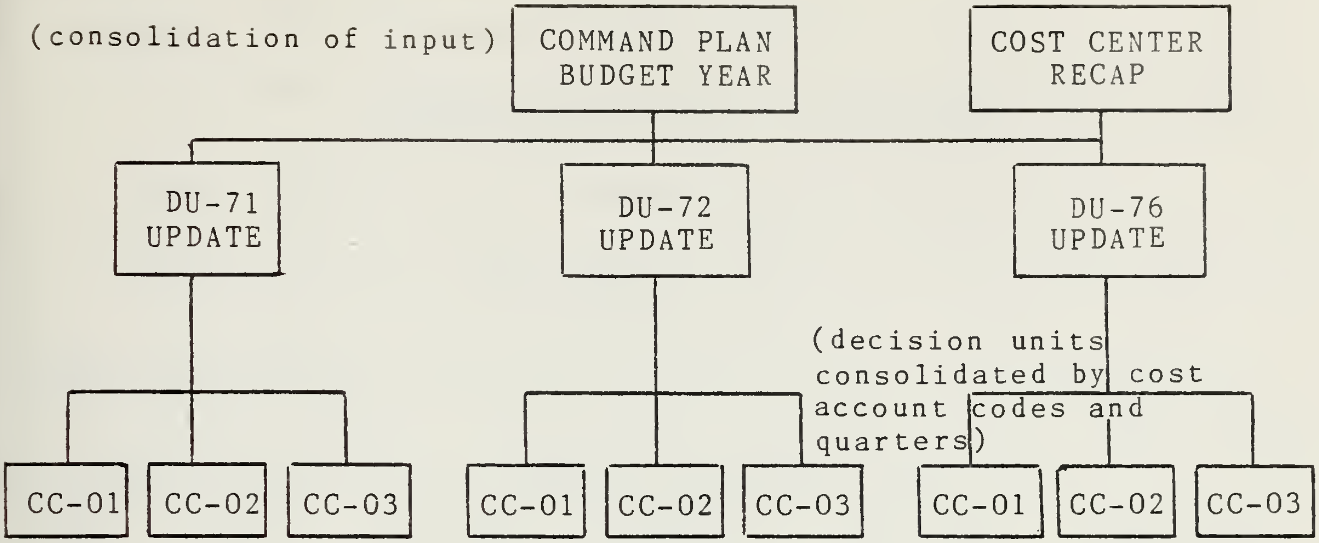
Most of the data has already been programmed into the three cost centers. You will however, be given the opportunity to load some of the initial budget data to several decision units. The object of this exercise is to present a simple budget package routine, which can later be modified and changed with little effort. The computer will allow the solving of many problems both accurately and at a much faster rate than by solving them with a calculator, a pencil, and a sheet of paper.

The methodology used in constructing this example is explained in the following text and diagram:

A spreadsheet was prepared for each of the three cost centers, similar to the one you formatted in paragraph 4, although additional decision units were added. Most of the data input has already been typed in but there has been some that was omitted in order for you to enter it into the computer.

Once the remaining data for the cost centers has been loaded by cost account code, expense element, and quarter, the spreadsheets that follow allows for the consolidation of the cost centers by decision units. This will enable the command plan to be developed, the final spreadsheet. There is little for you to do on these spreadsheets except execute a few commands that will update the spreadsheets for you.

The final phase of this tutorial will be to execute the budget year command plan. This spreadsheet is a consolidation of all cost centers by decision unit, cost account code, and quarters. Also contained in the spreadsheet is a recap of quarterly totals by cost centers. From this consolidated sheet we may go in many possible directions. One such alternative would be to help produce the target limitation letters for the upcoming fiscal year.



(consolidation of input)

(decision units consolidated by cost account codes and quarters)

With the Microsoft Multiplan Program on the display screen, you will want to load the first file (cost center 01).

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "CC-01" (to identify file desired)

Press: RETURN (to call on file)

What should now appear on the display screen is the budget formulation spreadsheet for cost center 01. The complete spreadsheet as it is here, is the same as on page 66. At this point, look over the spreadsheet by scrolling down the screen using the down direction key found on the keyboard.

Press: ↓ (down direction key, cursor moves in this direction)

By holding down on the key scroll through the spreadsheet observing its format and stopping wherever you desire by releasing the direction key. The format of the spreadsheet is divided by decision unit and quarters. Each cost account code and expense element can be loaded by quarter and a total of the cost account code and that expense element is provided in the total column, (column 6). There is also a quarterly total by decision unit and a cumulative total of that cost center. A very simple spreadsheet, when formatted properly, is one that saves plenty of time. Scroll down until the cell pointer or cursor is in row 49, column 2 "R49C2." Note the total and cumulative rows on the screen.

Press: G (to select goto command)

Press: R (to select row number)

Type: "11" (to enter row selection desired)

Press: TAB (to move the cursor to the second field in the command line, column selection)

Type: "2" (to enter column selection desired)

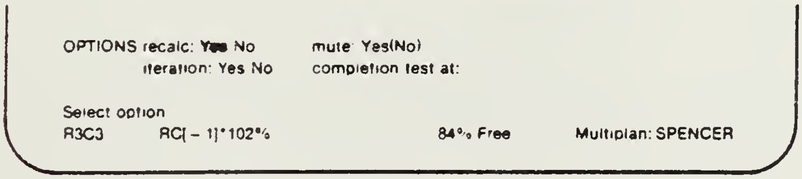
Press: RETURN (to initiate command to move cursor to the new cell)

The cursor should now be located at "R11C2." Check the status line to ensure this is so.

With the cursor now located in the proper cell, "R11C2" the following data will be loaded to decision unit 71.

CAC	E/E	1ST QTR	2ND QTR	3RD QTR	4TH QTR
0001	E	1500	500	1000	1000
0001	Q	1000	1000	500	500
0001	V	250	300	400	250
0004	E	500	500	500	500

At this next step the Multiplan Program will be taken out of the recalculation mode in order to speed up the process of allowing you to enter data. The "recalc" option controls when Multiplan will perform formula calculations. If the "recalc" option is set to "yes" Multiplan recalculates all formulas whenever a new amount is inserted in the display screen. If the "recalc" option mode is set to "no," recalculation is done only when the RECALC control is pressed or during transfer save. The length of time Multiplan takes to recalculate a sheet depends on how many cells are in use, and on the complexity of the formulas in use. When it is necessary to make numerous entries on a busy worksheet/spreadsheet, it is desirable to set the "recalc" option mode to "no" for quicker response while inputting data. Set "recalc" to "yes" again when you want to see the effect of each change made. Refer to the following diagram:



```
OPTIONS recalc: Yes No        mute: Yes(No)
         iteration: Yes No    completion test at:

Select option
R3C3       RC[ - 1]*102%              84% Free       Multiplan: SPENCER
```

(Diagram from Multiplan Users' Manual)

Press: 0 (to select option command)

Press: N (to select option subcommand for not recalculating)

Press: RETURN (to initiate command of not recalculating)

Now begin to load the data to decision unit 71 (refer to page 57)

CELL/CURSOR LOCATION - "R11C2"

Type: "1500" (to enter a value into the first quarter)

Press: RETURN (to enter value into R11C2)

CELL/CURSOR LOCATION - "R11C3"

Type: "500" (to enter a value into the second quarter)

Press: RETURN (to enter value into R11C3)

CELL/CURSOR LOCATION - "R11C4"

Type: "1000" (to enter a value into the third quarter)

Press: RETURN (to enter value into R11C4)

CELL/CURSOR LOCATION - "R11C5"

Type: "1000" (to enter a value into the fourth quarter)

Press: RETURN (to enter value into R11C5)

Continue to load the remaining data input contained on page for cost center 07. Once the final amount is entered into the fourth quarter, move the cursor to cell location "R22C2." In order to get the computer back into the recalculation mode:

Press: 0 (to select option command)

Press: Y (to select option subcommand for recalculating, Multiplan recalculates all formulas now that cells have been changed, by keeping your eyes focused on the display screen note how the totals in column 6 and row 21 change)

Press: RETURN (to initiate the command to recalculate, the amount of 17000 should now appear as the annual total for decision unit 71)

The display screen should now contain the amounts identical to those found on page 67. The procedures that were just followed would be continued to enter the remaining budget data to the decision units found in cost center 01. As you can see in

the diagram on page 66, several other decision units have already been loaded out with numeric values. Scroll through the file of cost center 01 at this time. When you have finished, execute the following sequence:

Press: G (to select goto command)

Press: R (to select row number)

Type: "11" (to enter row desired)

Press: TAB (to go to column selection)

Type: "2" (to select column number)

Press: RETURN (to initiate command to move cursor to the new cell location)

The cursor should now be located back at "R11C2." Since all the data that we wish to enter has now been loaded to cost center 01 we will save the file. In order to do so:

Press: T (to select transfer command)

Press: S (to select save subcommand)

Press: RETURN (note that upon pressing this key the display screen asks if you want to 'overwrite existing file?')

Press: Y (the computer will now save the file on the disk by replacing the old file)

Now load the data to cost center 02.

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "CC-02" (to identify file desired)

Press: RETURN (to call on file)

Cost center 02 should now be on your display screen. You will now load data to decision unit 72 (training) for several expense elements by quarter. The procedures are exactly like the ones used for loading data to cost center 01. Again take Multiplan out of the recalculation mode:

Press: O (to select option command)

Press: N (to select option subcommand for not recalculating)

Press: RETURN (to initiate command of not recalculating)

Press: G (to select goto command)

Press: R (to select row number)

Type: "24" (to enter row selection desired)

Press: RETURN (to initiate the command to move the cursor to the new cell)

The following data should now be loaded to cost center 02:

CAC	E/E	1ST QTR	2ND QTR	3RD QTR	4TH QTR
0002	E	1000	1000	2000	1000
0002	T	3000	1000	3000	2000
0002	V	2000	2000	3000	4000

Having completed entering all the data above put the computer back into the recalculating mode for cost center 02 .

Press: O (to select option command)

Press: Y (to select option subcommand for recalculating)

Press: RETURN (to initiate the command to recalculate, the amount of 28500 should be displayed for the new total for decision unit 72)

To verify the input:

Press: G (to select goto command)

Press: N (to select goto subcommand for naming row desired)

Type: "TOTAL" (to enter row name desired)

Press: RETURN (to initiate command to move cursor to the new row)

The cursor should now be located in row 48. You should now be able to verify the quarterly total amounts which ought to be:

1ST QTR:	20450
2ND QTR:	13100
3RD QTR:	16100
4TH QTR:	14850
TOTAL:	64500

Should these amounts not match go back and verify the input that you made. If the amounts do match (refer to diagram on page 68), continue with the following steps:

Press: G (to select goto command)

Press: R (to select row number)

Type: "11" (to enter row selection desired)

Press: TAB (to move the cursor to the second field in the command line, column selection)

Type: "2" (to enter column selection desired)

Press: RETURN (to initiate command to move cursor to the new cell)

The cursor should now be located at "R11C2." Check the status line to ensure this is the right location. To save the file:

Press: T (to select transfer command)

Press: S (to select save subcommand)

Press: RETURN

Press: Y (the computer will now save the file on the disk by replacing the old file)

Now load the data necessary for cost center 03.

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "CC-03" (to identify file desired)

Press: RETURN (to call on file)

Cost center 03 should now appear on the display screen. For this cost center you will be loading data to decision unit 76 (deficiencies in units.) At this stage you should feel comfortable as far as being able to enter any data onto the spreadsheet. For cost center 03 load the following data to decision unit 76, do not hesitate to refer back to earlier instructions.

CAC	E/E	1ST QTR	2ND QTR	3RD QTR	4TH QTR
00H1	T	4000	2000	2000	3000
00J1	T	250	500	150	100
00K1	T	500	0	500	0

Once you have this data loaded to decision unit 76, verify the total amounts to those contained in the diagram on page 69. Make sure the cursor is back at cell location "R11C2" before continuing.

Press: T (to select transfer command)

Press: S (to select save subcommand)

Press: RETURN

Press: Y (the computer will now save the file on the disk by replacing the old file)

The spreadsheets/worksheets that we have been working with up to now have all been identical. The Multiplan program allows us to manipulate more than one spreadsheet in its virtual memory system at any one time. Numerous spreadsheets may be active and share information at any one time. However, you may have noticed that during recalculation each spreadsheet is treated separately. When a recalculation occurs, either automatically or by pressing the options (o) key only the spreadsheet in the current buffer is updated. The others remain unchanged, except to the extent that they may be used to review data from the current spreadsheet when they are eventually updated themselves. The next few pages of this tutorial will explain how the spreadsheets used have been linked together so that recalculation affects not only the current spreadsheet but other spreadsheets as well.

The next three spreadsheets that you will encounter were designed to consolidate each of the decision units that we have been working with thus far. There is not any data to be entered on these spreadsheets since they draw the data from the cost center spreadsheets.

Note the sample spreadsheets on pages 70-74. They are a consolidation of cost centers 01, 02, and 03 by decision unit. These figures do not contain the data input that you just made in this tutorial. At this point let us update these files so you might better understand what is actually happening.

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "DU71" (to select file desired)

Press: RETURN (this will update the spreadsheet containing all cost account codes and expense elements found in decision unit 71)

The very first data that you entered in cost center 01, decision unit 71, cost account code 0001, expense element E now should appear on the display screen on row 13. The amounts that you entered were:

1ST QTR: 1500
2ND QTR: 500
3RD QTR: 1000
4TH QTR: 1000

Observe the first four cost account codes on the display screen. They should all contain the data that you had entered for cost center 01. The updated file should now be identical to the spreadsheet on page 75. We want to save this file so:

Press: T (to select transfer command)

Press: S (to select save subcommand)

Press: RETURN

Press: Y (the computer will now save the updated file on the disk by replacing the old file)

Now update the remaining two decision units. The update procedures are exactly the same as those for decision unit 71.

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "DU72" (to select file desired)

Press: RETURN (this will update the spreadsheet containing all cost account codes and expense elements found in decision unit 72)

You may wish to scroll through this file to ensure that the changes that were made to decision unit 72 have at this time been updated. Refer to pages 77 and 78 to verify the results. If satisfied:

Press: T (to select transfer command)

Press: S (to select save subcommand)

Press: RETURN

Press: Y (the computer will now save the file on the disk by replacing the old file)

Now update decision unit 76 in the same manner. Check the results with the spreadsheet on page 79.

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "DU76" (to select file desired)

Press: RETURN (this will update the spreadsheet for decision unit 76)

If you have verified the amounts contained in this decision unit save the file:

Press: T (to select transfer command)

Press: S (to select save subcommand)

Press: RETURN

Press: Y (the computer will now save the file on the disk by replacing the old file)

The spreadsheet on pages 80 and 81 represent a copy of the command plan before being updated with the budget input you entered into each of the cost centers. This command plan is a consolidation of cost centers by decision unit. This will give you the big financial picture of the command. To update the command plan:

Press: T (to select transfer command)

Press: L (to select load subcommand)

Type: "CMDPLN" (to select file desired)

Press: RETURN (to update the command plan spreadsheet)

What you now have is an updated financial plan for the budget year. The totals on the display screen should match the amounts contained in the spreadsheet on pages 82 and 83. Scroll down the screen until you find a recap of each cost center, rows 55 through 61. At this time, if you have finished reviewing the command plan:

Press: Q (to select quit command)

Press: Y (to confirm)

This will take you back to the main program option menu. By selecting one of the three options you may continue again with the prime enhancement package or the electronic spreadsheet, or if you choose stop the session and exit. If your choice is one of the first two options refer back to the appropriate portion of the tutorial. If you wish to exit at this time:

Type: "3" (to make menu selection)

Press: RETURN

Once the following message appears on the display screen you may turn off the KAYPRO 10.

```
"The heads have been placed over the safety zone
 and the hard disk controller has been de-selected.
 It is now safe for you to turn off the machine."
```

This concludes the tutorial. We hope you enjoyed it.

BUDGET FORMULATION FY-8_
COST CENTER 01

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E	0	0	0	0	0
0001Q	0	0	0	0	0
0001V	0	0	0	0	0
0004E	0	0	0	0	0
0005E	500	370	250	380	1500
0009T	0	400	700	500	1600
0040T	500	430	150	820	1900
0041T	550	900	100	250	1800
0099E	0	0	0	0	0
U 71 SUBTOTAL	1550	2100	1200	1950	6800
RNG					
0002E	0	500	250	600	1350
0002T	750	250	250	400	1650
0002V	850	750	750	250	2600
0007E	250	250	0	0	500
0007V	150	0	0	0	150
0008E	0	250	750	750	1750
0008T	0	0	0	0	0
U 72 SUBTOTAL	2000	2000	2000	2000	8000
EF IN UNITS					
00HIT	5000	4000	4000	2000	15000
00J1T	500	2000	500	1000	4000
00K1T	0	0	0	0	0
00LIT	0	0	0	0	0
00M1T	0	0	0	0	0
U 76 SUBTOTAL	5500	6000	4500	3000	19000
TOTAL	9050	10100	7700	6950	33800
CUMULATIVE	9050	19150	26850	33800	33800

BUDGET FORMULATION FY-8_
COST CENTER 01

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E	1500	500	1000	1000	4000
0001Q	1000	1000	500	500	3000
0001V	250	300	400	250	1200
0004E	500	500	500	500	2000
0005E	500	370	250	380	1500
0009T	0	400	700	500	1600
0040T	500	430	150	820	1900
0041T	550	900	100	250	1800
0099E	0	0	0	0	0
71 SUBTOTAL	4800	4400	3600	4200	17000
ING					
0002E	0	500	250	600	1350
0002T	750	250	250	400	1650
0002V	850	750	750	250	2600
0007E	250	250	0	0	500
0007V	150	0	0	0	150
0008E	0	250	750	750	1750
0008T	0	0	0	0	0
J 72 SUBTOTAL	2000	2000	2000	2000	8000
EF IN UNITS					
00HIT	5000	4000	4000	2000	15000
00J1T	500	2000	500	1000	4000
00K1T	0	0	0	0	0
00LIT	0	0	0	0	0
00M1T	0	0	0	0	0
U 76 SUBTOTAL	5500	6000	4500	3000	19000
OTAL	12300	12400	10100	9200	44000
UMULATIVE	12300	24700	34800	44000	44000

BUDGET FORMULATION FY-8_
COST CENTER 02

DECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E	1000	2000	2000	2000	7000
0001Q	2000	1500	1500	1500	6500
0001V	4500	1500	250	250	6500
0004E	0	0	0	0	0
0005E	0	0	0	0	0
0009T	0	0	0	0	0
0040T	400	200	200	200	1000
0041T	1000	250	250	500	2000
0099E	0	0	0	0	0
71 SUBTOTAL	8900	5450	4200	4450	23000
ENG					
0002E	1000	1000	2000	1000	5000
0002T	3000	1000	3000	2000	9000
0002V	2000	2000	3000	4000	11000
0007E	250	500	1000	750	2500
0007V	100	100	50	50	300
0008E	0	0	0	0	0
0008T	200	300	100	100	700
U 72 SUBTOTAL	6550	4900	9150	7900	28500
EF IN UNITS					
00HIT	4000	2500	2500	2000	11000
00J1T	1000	250	250	500	2000
00K1T	0	0	0	0	0
00LIT	0	0	0	0	0
00M1T	0	0	0	0	0
DU 76 SUBTOTAL	5000	2750	2750	2500	13000
TOTAL	20450	13100	16100	14850	64500
CUMULATIVE	20450	33550	49650	64500	64500

BUDGET FORMULATION FY-8_
COST CENTER 03

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E	1000	3000	1000	1000	6000
0001Q	800	400	250	300	1750
0001V	500	500	250	100	1350
0004E	200	200	200	200	800
0005E	500	0	0	0	500
0009T	700	400	700	500	2300
0040T	300	300	250	2500	3350
0041T	600	400	250	200	1450
0099E	0	0	0	0	0
U 71 SUBTOTAL	4600	5200	2900	4800	17500
RNG					
0002E	1000	500	250	600	2350
0002T	2000	250	250	400	2900
0002V	1750	750	750	250	3500
0007E	200	500	1000	700	2400
0007V	100	250	1250	250	1850
0008E	250	250	200	200	900
0008T	0	0	0	0	0
U 72 SUBTOTAL	5300	2500	3700	2400	13900
EF IN UNITS					
00HIT	4000	2000	2000	3000	11000
00J1T	250	500	150	100	1000
00K1T	500	0	500	0	1000
00LIT	0	0	0	0	0
00M1T	0	0	0	0	0
DU 76 SUBTOTAL	4750	2500	2650	3100	13000
TOTAL	14650	10200	9250	10300	44400
CUMULATIVE	14650	24850	34100	44400	44400

BUDGET FORMULATION FY-8_
DECISION UNIT 71

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E					
CC-01	0	0	0	0	0
CC-02	1000	2000	2000	2000	7000
CC-03	1000	3000	1000	1000	6000
01E SUBTOTAL	2000	5000	3000	3000	13000
0001Q					
CC-01	0	0	0	0	0
CC-02	2000	1500	1500	1500	6500
CC-03	800	400	250	300	1750
01Q SUBTOTAL	2800	1900	1750	1800	8250
0001V					
CC-01	0	0	0	0	0
CC-02	4500	1500	250	250	6500
CC-03	500	500	250	100	1350
01V SUBTOTAL	5000	2000	500	350	7850
0004E					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	200	200	200	200	800
04E SUBTOTAL	200	200	200	200	800
0005E					
CC-01	500	370	250	380	1500
CC-02	0	0	0	0	0
CC-03	500	0	0	0	500
05E SUBTOTAL	1000	370	250	380	2000

0009T					
CC-01	0	400	700	500	1600
CC-02	0	0	0	0	0
CC-03	700	400	700	500	2300
09T SUBTOTAL	700	800	1400	1000	3900
0040T					
CC-01	500	430	150	820	1900
CC-02	400	200	200	200	1000
CC-03	300	300	250	2500	3350
40T SUBTOTAL	1200	930	600	3520	6250
0041T					
CC-01	550	900	100	250	1800
CC-02	1000	250	250	500	2000
CC-03	600	400	250	200	1450
41T SUBTOTAL	2150	1550	600	950	5250
0099E					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
99E SUBTOTAL	0	0	0	0	0

BUDGET FORMULATION FY-8_
DECISION UNIT 72

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
NG					
0002E					
CC-01	0	500	250	600	1350
CC-02	0	0	0	0	0
CC-03	1000	500	250	600	2350
02E SUBTOTAL	1000	1000	500	1200	3700
0002T					
CC-01	750	250	250	400	1650
CC-02	0	0	0	0	0
CC-03	2000	250	250	400	2900
02T SUBTOTAL	2750	500	500	800	4550
0002V					
CC-01	850	750	750	250	2600
CC-02	0	0	0	0	0
CC-03	1750	750	750	250	3500
02V SUBTOTAL	2600	1500	1500	500	6100
0007E					
CC-01	250	250	0	0	500
CC-02	250	500	1000	750	2500
CC-03	200	500	1000	700	2400
07E SUBTOTAL	700	1250	2000	1450	5400
0007V					
CC-01	150	0	0	0	150
CC-02	100	100	50	50	300
CC-03	100	250	1250	250	1850
07V SUBTOTAL	350	350	1300	300	2300

008E					
CC-01	0	250	750	750	1750
CC-02	0	0	0	0	0
CC-03	250	250	200	200	900
08E SUBTOTAL	250	500	950	950	2650
008T					
CC-01	0	0	0	0	0
CC-02	200	300	100	100	700
CC-03	0	0	0	0	0
08T SUBTOTAL	200	300	100	100	700

BUDGET FORMULATION FY-8_
DECISION UNIT 76

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
EF IN UNITS					
00H1T					
CC-01	5000	4000	4000	2000	15000
CC-02	4000	2500	2500	2000	11000
CC-03	0	0	0	0	0
H1T SUBTOTAL	9000	6500	6500	4000	26000
00J1T					
CC-01	500	2000	500	1000	4000
CC-02	1000	250	250	500	2000
CC-03	0	0	0	0	0
J1T SUBTOTAL	1500	2250	750	1500	6000
00K1T					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
K1T SUBTOTAL	0	0	0	0	0
00L1T					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
L1T SUBTOTAL	0	0	0	0	0
00M1T					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
M1T SUBTOTAL	0	0	0	0	0

BUDGET FORMULATION FY-8_
DECISION UNIT 71

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E					
CC-01	1500	500	1000	1000	4000
CC-02	1000	2000	2000	2000	7000
CC-03	1000	3000	1000	1000	6000
01E SUBTOTAL	3500	5500	4000	4000	17000
0001Q					
CC-01	1000	1000	500	500	3000
CC-02	2000	1500	1500	1500	6500
CC-03	800	400	250	300	1750
01Q SUBTOTAL	3800	2900	2250	2300	11250
0001V					
CC-01	250	300	400	250	1200
CC-02	4500	1500	250	250	6500
CC-03	500	500	250	100	1350
01V SUBTOTAL	5250	2300	900	600	9050
0004E					
CC-01	500	500	500	500	2000
CC-02	0	0	0	0	0
CC-03	200	200	200	200	800
04E SUBTOTAL	700	700	700	700	2800
0005E					
CC-01	500	370	250	380	1500
CC-02	0	0	0	0	0
CC-03	500	0	0	0	500
05E SUBTOTAL	1000	370	250	380	2000

009T					
CC-01	0	400	700	500	1600
CC-02	0	0	0	0	0
CC-03	700	400	700	500	2300
09T SUBTOTAL	700	800	1400	1000	3900
0040T					
CC-01	500	430	150	820	1900
CC-02	400	200	200	200	1000
CC-03	300	300	250	2500	3350
40T SUBTOTAL	1200	930	600	3520	6250
0041T					
CC-01	550	900	100	250	1800
CC-02	1000	250	250	500	2000
CC-03	600	400	250	200	1450
41T SUBTOTAL	2150	1550	600	950	5250
0099E					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
99E SUBTOTAL	0	0	0	0	0

BUDGET FORMULATION FY-8_
DECISION UNIT 72

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
ING					
0002E					
CC-01	0	500	250	600	1350
CC-02	1000	1000	2000	1000	5000
CC-03	1000	500	250	600	2350
02E SUBTOTAL	2000	2000	2500	2200	8700
0002T					
CC-01	750	250	250	400	1650
CC-02	3000	1000	3000	2000	9000
CC-03	2000	250	250	400	2900
02T SUBTOTAL	5750	1500	3500	2800	13550
0002V					
CC-01	850	750	750	250	2600
CC-02	2000	2000	3000	4000	11000
CC-03	1750	750	750	250	3500
02V SUBTOTAL	4600	3500	4500	4500	17100
0007E					
CC-01	250	250	0	0	500
CC-02	250	500	1000	750	2500
CC-03	200	500	1000	700	2400
07E SUBTOTAL	700	1250	2000	1450	5400
0007V					
CC-01	150	0	0	0	150
CC-02	100	100	50	50	300
CC-03	100	250	1250	250	1850
07V SUBTOTAL	350	350	1300	300	2300

0008E					
CC-01	0	250	750	750	1750
CC-02	0	0	0	0	0
CC-03	250	250	200	200	900
	----------	----------	----------	----------	----------
08E SUBTOTAL	250	500	950	950	2650
0008T					
CC-01	0	0	0	0	0
CC-02	200	300	100	100	700
CC-03	0	0	0	0	0
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08T SUBTOTAL	200	300	100	100	700

BUDGET FORMULATION FY-8_
DECISION UNIT 76

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
F IN UNITS					
00H1T					
CC-01	5000	4000	4000	2000	15000
CC-02	4000	2500	2500	2000	11000
CC-03	4000	2000	2000	3000	11000
H1T SUBTOTAL	13000	8500	8500	7000	37000
00J1T					
CC-01	500	2000	500	1000	4000
CC-02	1000	250	250	500	2000
CC-03	250	500	150	100	1000
J1T SUBTOTAL	1750	2750	900	1600	7000
00K1T					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	500	0	500	0	1000
K1T SUBTOTAL	500	0	500	0	1000
00L1T					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
L1T SUBTOTAL	0	0	0	0	0
00M1T					
CC-01	0	0	0	0	0
CC-02	0	0	0	0	0
CC-03	0	0	0	0	0
M1T SUBTOTAL	0	0	0	0	0

BUDGET FORMULATION FY-8_
COMMAND PLAN

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E	2000	5000	3000	3000	13000
0001Q	2800	1900	1750	1800	8250
0001V	5000	2000	500	350	7850
0004E	200	200	200	200	800
0005E	1000	370	250	380	2000
0009T	700	800	1400	1000	3900
0040T	1200	930	600	3520	6250
0041T	2150	1550	600	950	5250
0099E	0	0	0	0	0
U 71 SUBTOTAL	15050	12750	8300	11200	47300
RNG					
0002E	1000	1000	500	1200	3700
0002T	2750	500	500	800	4550
0002V	2600	1500	1500	500	6100
0007E	700	1250	2000	1450	5400
0007V	350	350	1300	300	2300
0008E	250	500	950	950	2650
0008T	200	300	100	100	700
U 72 SUBTOTAL	7850	5400	6850	5300	25400
EF IN UNITS					
00HIT	9000	6500	6500	4000	26000
00J1T	1500	2250	750	1500	6000
00K1T	0	0	0	0	0
00L1T	0	0	0	0	0
00M1T	0	0	0	0	0
U 76 SUBTOTAL	10500	8750	7250	5500	32000
OTAL	33400	26900	22400	22000	104700
UMULATIVE	33400	60300	82700	104700	104700

ST CENTER					
CC-01	9050	10100	7700	6950	33800
CC-02	14450	9100	8100	7850	39500
CC-03	9900	7700	6600	7200	31400
TAL	33400	26900	22400	22000	104700

BUDGET FORMULATION FY-8_
COMMAND PLAN

ECISION UNIT CAC EE	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
S/ADMIN					
0001E	3500	5500	4000	4000	17000
0001Q	3800	2900	2250	2300	11250
0001V	5250	2300	900	600	9050
0004E	700	700	700	700	2800
0005E	1000	370	250	380	2000
0009T	700	800	1400	1000	3900
0040T	1200	930	600	3520	6250
0041T	2150	1550	600	950	5250
0099E	0	0	0	0	0
J 71 SUBTOTAL	18300	15050	10700	13450	57500
RNG					
0002E	2000	2000	2500	2200	8700
0002T	5750	1500	3500	2800	13550
0002V	4600	3500	4500	4500	17100
0007E	700	1250	2000	1450	5400
0007V	350	350	1300	300	2300
0008E	250	500	950	950	2650
0008T	200	300	100	100	700
U 72 SUBTOTAL	13850	9400	14850	12300	50400
EF IN UNITS					
00HIT	13000	8500	8500	7000	37000
00J1T	1750	2750	900	1600	7000
00K1T	500	0	500	0	1000
00L1T	0	0	0	0	0
00M1T	0	0	0	0	0
DU 76 SUBTOTAL	15250	11250	9900	8600	45000
TOTAL	47400	35700	35450	34350	152900
CUMULATIVE	47400	83100	118550	152900	152900

OST CENTER

CC-01	12300	12400	10100	9200	44000
CC-02	20450	13100	16100	14850	64500
CC-03	14650	10200	9250	10300	44400
OTAL	47400	35700	35450	34350	152900

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